

# Rabies

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## Definition

Rabies is a disease that is caused by a virus. It is carried by wildlife- most commonly raccoons, skunks, foxes, and bats- and can be transmitted to humans and domestic animals. It affects the brain and spinal cord and can cause death if left untreated. All mammals (animals that have hair or fur including bats) can get and spread rabies, but some are more common carriers of rabies.

## Signs and symptoms

The first symptoms of rabies in humans may be very similar to those of the flu including general weakness or discomfort, fever, or headache. These symptoms may last for days. There may also be discomfort or a prickling or itching sensation at the site of bite, progressing within days to neurological symptoms including anxiety, confusion, and agitation. As the disease progresses, the person may experience delirium, abnormal behavior, hallucinations, and insomnia. Once clinical signs of rabies appear, the disease is nearly always fatal.

Infected animals' behavior may be unpredictable; they may lack coordination, attack, bite, scratch, or lose its fear of people. Even if an animal looks healthy, it could have rabies or other diseases that can spread to other animals or people.

## Transmission (i.e. an "exposure")

Rabies is transmitted when saliva of an infected animal is passed to an uninfected person or animal, most commonly through a bite. Transmission is possible but has rarely been documented when saliva or tissue from the brain or spinal cord of an infected animal comes in contact with broken skin or mucous membranes (i.e., eyes, nose, or mouth); through aerosol transmission; and from organ and tissue transplantations. Rabies is not spread by petting a rabid animal or by touching dried saliva, blood, urine, or feces of a rabid animal.

## Diagnosis

In animals, rabies is diagnosed using the direct fluorescent antibody (DFA) test, which looks for the presence of rabies virus antigens in brain tissue. In humans, several tests are required.

## Role of the School Nurse

### Preventing exposures

- Teach students not to touch wild animals or any animal that they do not know.
- Encourage students to report any wild animal contact to an adult.
- Report stray or wild animals seen in close proximity to school grounds to the principal.
- Suggest pest management to the principal if evidence of bats is seen in the school.

### Recommendations after an exposure

- If a student is bitten or scratched by an animal, clean the wound right away with soap and water.
- Encourage students to seek attention from their healthcare provider for any trauma due to an animal attack, including scratches from animals suspected of carrying rabies. The student's healthcare provider, possibly in consultation with Maine CDC, will decide if rabies post-exposure prophylaxis (PEP) is needed. Decisions to start PEP will be based on the type of exposure and the species of animal involved, as well as laboratory and surveillance information for the geographic area where the exposure occurred. Rabies PEP consists of a regimen of one dose of immune globulin and four doses of rabies vaccine over a 14-day period.

- Report all animal bites or scratches that happen during the school day to the principal. Inform the municipality in which the incident occurred by calling the town clerk or animal control officer.
- If a bat is seen flying in a classroom, encourage staff and students to remain calm and exit the room (while keeping track of who was in the room), closing the door behind them. Contact Maine CDC to discuss potential exposure and whether testing of the bat is necessary.
- If the animal remains a threat to students, notify the principal that the local game warden (if the animal is wild) or animal control officer (if the animal is domestic) has been called.
  - Wild Animals: Contact game wardens through the state police dispatch.  
 Gray: 1-800-228-0857      Orono: 1-800-432-7381  
 Augusta: 1-800-452-4664      Houlton: 1-800-924-2261
  - Domestic Animals: Animal Control can be contacted by calling the local town office or police.
- Refer to the Algorithm for Rabies Exposure Assessment on the Maine CDC website (see resources) for guidance on control measures and vaccine recommendations.
- For 24/7 consultation and advice, call Maine CDC at 1-800-821-5821.

### **Exclusions**

No exclusions. If there is a case of human rabies, the individual will require intensive medical care and a full epidemiologic investigation will be conducted. Epidemiologists will recommend rabies PEP (post exposure prophylaxis) for all persons who came in contact with the case's saliva in the two weeks before symptom onset.

### **Reporting Requirements**

Human and animal rabies is a reportable condition and Maine CDC must be notified at 1-800-821-5821. Human rabies post-exposure prophylaxis (PEP) is reportable within 48 hours of administration by telephone, fax, or mail by a provider. More information about reportable conditions can be found online at <http://www.maine.gov/dhhs/boh/ddc/epi/disease-reporting/index.shtml>.

### **Resources**

- Maine CDC Rabies website: <http://www.mainepublichealth.gov/rabies>
- Maine CDC Algorithm for Rabies Exposure Assessment [Word](#) / [PDF](#)
- Maine Health and Environmental Testing Laboratory website (animal rabies statistics) <http://www.maine.gov/dhhs/etl/rabies/rabies.htm>
- Federal CDC Rabies website: <http://www.cdc.gov/rabies>
- Preventing Rabies in Maine video, Maine state and local agencies <http://www.youtube.com/mefishwildlife#p/u/10/AwzqX8NeJ20>
- Bats and Rabies video, Arizona Department of Public Health (for school health officials) [http://www.youtube.com/watch?v=TQInteu3pqw&feature=player\\_embedded](http://www.youtube.com/watch?v=TQInteu3pqw&feature=player_embedded)
- Bats and Rabies video, Arizona Department of Public Health (for students) [http://www.youtube.com/watch?v=awjpX3A8Vlk&feature=player\\_embedded](http://www.youtube.com/watch?v=awjpX3A8Vlk&feature=player_embedded)